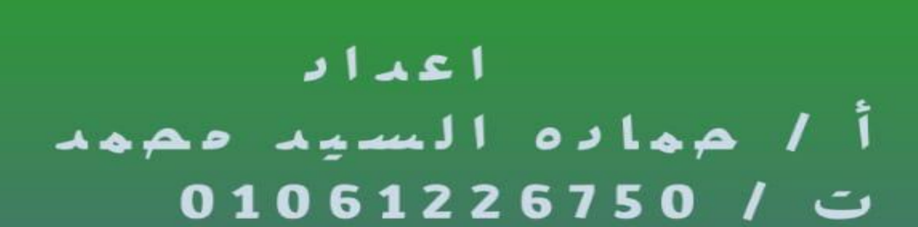
The future

المستقبل



Information and
Communication Technology
(ICT)
Grade 4
First term



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Lesson 1
G4

• Explorer In Action

Albert Lin



He is an archaeologist who used technological tools (without digging) in different places to explore archaeological sites

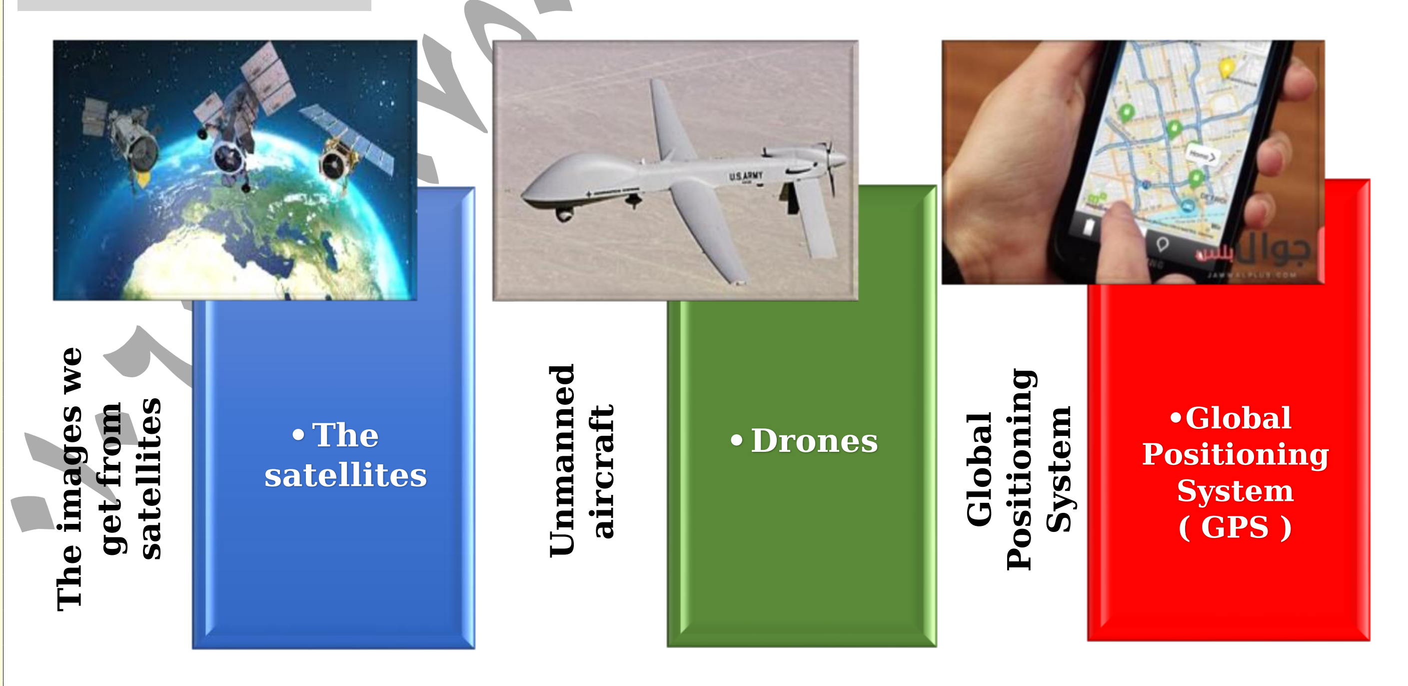
The importance of technological tools for archaeologists

1- Allow them to explore in ways (simple - easy - save effort and cost)

2- Help them identify where they should dig by conducting a survey above the ground

What technological tools can Albert Lin use to explore the Earth

First: the technological tools used by archaeologists to locate objects above the Earth's surface:



1- used for: getting more details and information about an area

2- used for: detecting (an area) by controlling the pilot while he is on the surface of the Earth

3- used in: locating (something) by satellite

Second: the technological tools used by archaeologists to locate objects under the surface of the Earth:



1- Magnetometer:
used in-finding minerals in the earth-measuring the magnetic field



2- Ground penetrating radar:
it is used to find objects buried underground

Lesson 1

•Questions

Q1: choose the correct answer from the brackets:

(Ground penetrating radar – magnetometer – GPS)

1- it is used ……………… To locate objects above the ground

2- it is used ……………… To locate objects underground

3- it is used ……………… To locate underground minerals

Q2: put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase:

1- Albert Lin used the drill to explore underground objects only ( )

2- a skilled archaeologist uses technology tools to search for underground objects, examples of which are ground-penetrating radar ( )

3- the modern drilling method for discovering underground objects saves time and effort ( )

4- modern technological devices do not contribute to the search for antiquities in the underground ( )

5- GPS positioning system contributes to the identification of routes when traveling by car ( )

6- it is not possible to take pictures with drones ( )

7- satellites are used to transmit football matches only ( )

8- archaeologist Albert Lin managed to discover cities that disappeared many years ago ( )

9- you must be a scientist or an engineer to use modern technological tools ( )

10- the skills of the engineer and archaeologist data analysis ( )

Q3: write down a reason for each of:

1- the traveler used GPS positioning system while traveling from one country to another

2- use various technological means to detect buried in the ground before construction



• Components of a computer systems

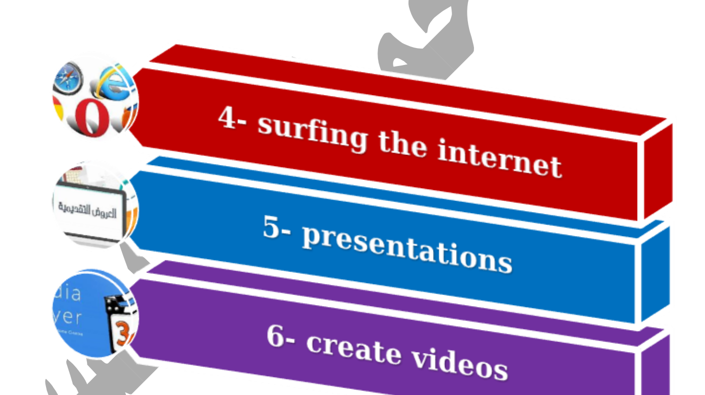


The computer

It is an electronic device that has the ability to store, retrieve and process data and information

Computer tasks





Types of computers

Computers vary in type and date of manufacture


Personal computer


The laptop computer


The tablet device

To use the computer, you must have the following

The keyboard	Control mouse	Display screen	Camera	Microphone	Loudspeaker

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Input devices

Are the devices that enter the data required to complete a particular task

Device name	Device shape	Tasks and data type
The keyboard Braille keyboard for the blind		Enter letters and numbers
Control mouse		Directing objects by selecting, dragging, or inserting
Touch screen		It works as an alternative to the mouse in entering choices via the screen
Camera and microphone		E Enter photos or videos Introduces sounds and music
The scanner		Scans or copies photos Paper and text inside the computer

Output devices

These are devices that output information after processing the entered data

Device name	Device shape	Tasks and data type
Display screen		Displays visual information such as text and images
Braille terminal system		Displays information as an alternative to the screen for the blind
Loudspeaker		He produces audio and musical lyrics
Speech synthesizer		A device that allows non-native speakers to speak (it outputs audio words)
Printer		Printing texts or images on paper

Important note:

The touch screen works as an input and output unit at the same time

Lesson 3

•Questions

Q1: complete the following statements with the appropriate answer:

1- computer types differ from each other in terms of ………………..

2- the devices responsible for entering data to the computer are called devices ………………..

4- there are some modules that can be used for input and output together, such as ……………….

5- an electronic device whose function is data processing ………………..

6- the computer performs many tasks, including ………………..

Q2: choose the correct answer from the following options:

1- let's input sounds to computer and record lyrics ………………….

(Printer-monitor – microphone-speakers)

2- a device that allows non-native speakers to speak ……………………..

(Speech synthesizer – speakers – monitor – scanner)

3- used ……………… To direct objects by selection, dragging or insertion

(Printer-mouse-scanner-microphone)

4- all of the following except input modules ……………………

(Touch screen – mouse-scanner-monitor screen)



• Software and operating systems

Introduction:

After paying attention to the presence of devices to operate the computer such as (keyboard-and screen) so there must be an operating system on the computer

Software

These are the programs and applications that help the user to perform the tasks he needs. and are an essential part of the computer components, including the operating system software, which is responsible for the operation of the computer

Operating system



Represents the intermediary between the user and the computer and helps the user to run the various programs he wants

After activating the operating system on the device, some special software is downloaded to work tasks on the computer to work

(Reports or to play computer games) these are some examples of software:



Presentation program
power point
Helps to display information and add text, images, graphics and videos



Word processing software
Word
Helps to coordinate words and write reports with the addition of photos



Google chrome
To browse websites in the online world

Computer processor (CPU)



Central Processing Unit: (CPU)

Represents the mind of the computer and is responsible for processing the data by performing mathematical and logical operations to be output to the user as he wants

How does the computer react to the commands directed to it?

The student writes in the Word program → **The operating system sends data to the CPU** → **The CPU processes data into information** → **The CPU sends information to the operating system** → **The operating system receives information and displays it on the screen**

Lesson 4

•Questions

Q1: put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase :

1- the operating system is not necessary for the operation of the computer (   )

2- presentation software helps to display information (   )

3- software whose function is to control the processed data so that the user can output it (   )

4- the keyboard and the screen are considered to be the devices responsible for the operation of the computer (   )

Q2: put the appropriate answer in the place of the dots:

(Presentation software-word processing software-CPU - software-browser-operating systems)

1- it helps the user to apply his own tasks such as creating a presentation or creating a report ....

2- the first responsible for how to execute orders and confirm the user's access to what he ordered at the beginning is ....

3- the program helps to display information and add texts, images and drawings is ....

4- it prepares portals to enter the world of the internet and websites is ....

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Lesson 5
G4

• Supporting people of determination



Assistive technology

These are devices and programs that enable people of determination (special abilities) to carry out their daily tasks with ease

Technological devices and tools that help people of determination, including:



Screen magnification software

This software magnifies everything such as words and images for visually impaired people to interact with the computer



Earbuds

They are headphones that help people with hearing problems and it has become possible to connect them to a mobile phone and allow users to use their headset when using their phones



Alternative communication software

It is a software that helps people with disabilities to communicate orally and linguistically with others, and there are special computer programs capable of converting written text into audible text or vice versa

Sports equipment

They are certain sports tools that allow amateurs of people of determination to carry out ordinary and extraordinary activities such as:

1- football balls that make a sound
2- tricycles that can be operated by hands



Prosthetic limbs



It is a device that replaces a missing limb in the human body

Technological devices that help people with disabilities to move

- Automatic chairs
- Electric elevator
- Prosthetic devices
- Crutches

Braille method

It is a writing system that enables the blind to read by writing letters in the form of prominent symbols on paper and it also allows the blind person to read through the sense of touch

Lesson 5

•Questions

Q1- Choose the correct answer from the following options:

1- it turns letters into prominent symbols and allows them to be read by touch ....

(Braille - screen reader-chairs-headphones)

2- help .... People with determination to move

(Headphones – speakers – prosthetic devices-alternative sports tools)

3- help programs .... Visually impaired people have to interact with a computer

(Screen speakers-microphone – headphones-chairs)

4- help...................... People with determination to communicate orally and linguistically with others

(Screen amplifiers-electric elevators-alternative communication Software-Braille)

5- tricycles of three-wheelers...................... Which helps people of determination

(Headphones-screen Amplifiers-Braille - sports tools)

Q2- Aim for the underlined:

1- archaeologist Albert Lin lost his leg and relied on headphones to practice his tasks
2- the use of assistive technology makes it difficult for users to perform their daily tasks
3- screen magnification software is used to help those who suffer from the loss of one of their limbs

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• Common ICT problems and solutions

Introduction:

There are many problems that may be experienced when using ICT, especially computer and mobile devices, including:

1- problem: while using the computer, you were unable to open an application

1- restart the device

2- try to open the application again

3- update the software

4- scan the application and reinstall it

2- Problem: while using the computer, you find that the keyboard or mouse does not respond to your commands:

1- make sure that the control mouse and keyboard are connected to the motherboard, preferably after that restart the device

2- if the problem is not solved, you may need to replace it with another one

3- Problem: while you were searching for a specific file on your computer, you couldn't find it:

1- search the Downloads folder

2- search the Documents folder if it is a text file

3- search for it by the search box

4- search the Images folder if it is an image file

4- Problem: while using the computer, you found that the screen stopped displaying data and information:

1- press the buttons (Ctrl + Alt + Del) together for a short time

2- if this solution does not work, try turning off your device and restarting it

Lesson 6

•Questions

Q1- Put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase :

1- the occurrence of a computer malfunction is considered impossible ( )

2- the first thing to do when you encounter a computer problem is to contact a senior person ( )

3- press the key (Ctrl +Alt + Del) in case the mouse activates ( )

4- restarting the device helps to solve most of the problems ( )

Q2- Choose the correct answer from among the brackets:

1- an important choice that is preferable to do after repairing or reinstalling the mouse in the device is ....

(Delete an application from the device – restart the device – connect the power charger-confirm the connections)

2- when you are unable to solve some problems that you may be exposed to, you should do ....

(Leave the problem standing and stay away from it – disconnect the connections for the device-use your teacher or a family member)

3- the order responsible for closing the applications of the personal computer or laptop ....

(Shift + Del + Alt - Ctrl + Alt + Del - Del + Tap + Shift)

4- the following possibilities are all possible to solve keyboard malfunctions except ....

(Checking the keyboard connections – restarting the device-accidentally deleting a document)



• Collecting,analyzing, and graphing data

Introduction:

In order for scientists and archaeologists to study phenomena or solve problems, data on them must be collected, analyzed and expressed in graphs using the following steps:

Data collection

Data is collected from various sources, including:

1- books and articles

(Digital and paper)

2- opinion polls

(Ask others for their opinion)

3- records and reports

4- experiments

Data and information must be collected from reliable sources and verified as correct



Data analysis

It is the process of reviewing and processing the data you have collected to discover new information from it that may explain the past or the future or may indicate specific information you were looking for

It may collect a huge amount of data, so it is better to extract repetitive patterns from it in order to be able to analyze it



Data display

After you have collected the data and then analyzed it, you display it in the form of a graph so that it is easy for you to read the data and express it accurately



Information:

The vertical graph is the most common, as it displays different categories of information and compares them clearly, whether on paper or through Excel

It is preferable to use a graph where it is:

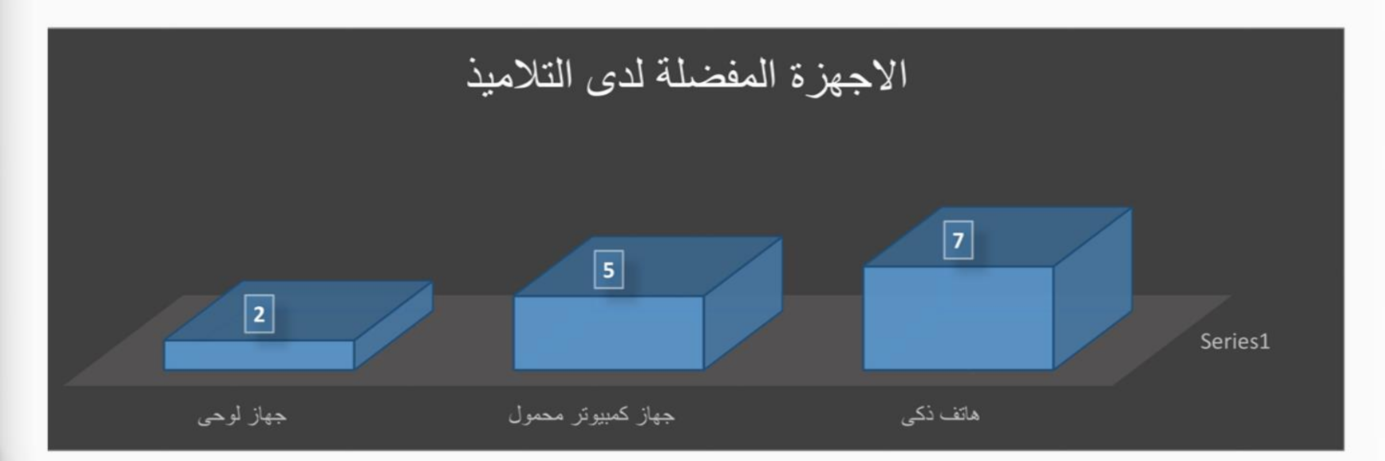
1- **easier to read the results**
2- **summarizes the amount of information and results in an illustration**
3- **provides easy comparison of analysis results**



Example: **Nesma asked 14 of her classmates about their favorite devices and these are the information that I analyzed**

1- **seven of their classmates answered that their favorite device is the phone**
2- **five of their colleagues answered that their favorite device is a laptop**
3- **two of their colleagues answered that their favorite device is the tablet**

After I analyzed the information, I expressed it in a graph:



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• Questions

Q1- Complete the following phrases with appropriate answers:

1- considered ……………… And ………………… From digital sources of data collection
2- the last stage after the data analysis is……………………
3- the diagram…………………… It is the most commonly used as it displays various categories of information

4- non-digital sources that are relied upon to collect data are………………. And ………….

5- The goal of the data analysis process is to be more accurate to obtain ………. And it depends on her ………

Q2-put a tick (√) in front of the following sources (digital sources-paper sources)

M	Sources of data collection	Digital sources	Paper sources
1	Reports and publications on various sites		
2	Books and articles		
3	Compact discs (CD-DVD)		
4	Audio and visual media		
5	Scientific journals and published research		
6	Documentation		

Q3- Choose the correct answer from the following options:

1- the following methods are not used at the data analysis stage except …………

- Checking the data
- Data storage
- Use books for research
- Conducting interviews

• Online dangers and how to be safe



Communication via the internet

It is one of the types of communication that is carried out through multiple ways through the use of phones, computers or tablets by exchanging text and electronic messages



Unsafe websites

There are some sites that aim to steal your data and information



Sharing information online

Be careful not to share your personal data with people you do not know or people you do not trust, because this can lead to harassment of you through annoying messages (Spam)



Download files

It is a feature that enables you to get some files from the internet and save them to your device

The harm of communicating via the internet



1- some people communicate for bad purposes, such as stealing your personal information

2- receive spam messages, which are unwanted messages aimed at advertising a product

3- impersonating a non-existent person to communicate and fabricate problems

How to protect yourself over the internet

1- make sure to know the identity of the person with whom you are having a conversation online
2- if you come across an unkind person, you can block him from communicating with you
3- do not click on links that you are unaware of their content
4- if you accidentally see an inappropriate or unsafe scene, leave this site
5- do not share your personal data on the internet such as (your name-address-school name)
6- make sure that your personal information is available to your family members only
7- Always Think before posting anything
8- do not open any e-mail containing an unfamiliar address

Note that:



While you are downloading files from the internet, these files are located in the Download folder

But beware because some files may contain viruses or files that track your information

Lesson 2

•Questions

Q1- Choose the correct answer from the following options:

1- your friend sent you an email with an attached file that you must ……………….

A- open the message and download the file

B- call and make sure if he sent it

C- scanning the message

D- blocking the author of the letter

2- you made a presentation using information from a well-known site that you should ………………..

A- putting the source of information in the presentation

B- submission of the offer without mentioning the source

C- not to use information other than your information

D- taking information from unreliable sources

3- it is considered ……………….. From personal information

A- the pseudonym

B- the video clip

C- age

D- address

4- clicking on unknown links causes …………………………..

A- the presence of important information

B- downloading viruses to your device by mistake

C- nothing

D- closing the device



•Using ICT tools in a healthy and ethical way



Dissemination of information on the internet

When you want to publish information about your friends or family members on social networking sites and refer to them in your publications through the work of:

1- the consent of the person must be taken before making a reference to his personal profile
2- the publications must be good and not offensive to anyone

Mention of information sources and owners



If you are asked to search for a topic from the internet, you must mention the owner of the information and its preference belongs to him

Respect for the law

1- do not search on prohibited, unethical or unreliable sites
2- it is necessary to consult your teacher or a family member before entering a new site

Positive and negative effects of ICT tools

m	The pros	m	Cons
1	The ability to view the news with one click on the control mouse	1	Excessive use of electronic devices makes you feel fatigue in your eyes or suffer from headaches in your head
2	Upload videos and photos, download them to your device and watch them when you want	2	Some people may rely entirely on Google to search for answers to all their questions, although this site does not give the correct answers
3	Communicate with your friends and family members wherever they are anywhere in the world	3	Spending a lot of time without movement leads to laziness
4	Helping people of determination to do their daily tasks	4	

Lesson 3

•Questions

Q1- Put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase :

1- Ahmed posting a photo of his friend Mohammed without his consent is correct (   )
2- a colleague used information from an article in a project for him and documented the source correctly (   )
3- some prohibited websites are characterized by publishing accurate information and ethical and useful materials (   )
4- one of the advantages of ICT is to help people of determination (   )

Q2- Choose the correct answer from the following options:

1- the content of the information published on the internet should be ....

(Harmful-vague-reliable-completely new)

2- spending a lot of time using technology leads to ....

(Happiness – laziness-activity-rest)

Q3- Evaluate the following positions using the (√) sign and according to the table in front of you :

m	Position	Advantages of IT tools	Disadvantages of IT tools
1	Share Tamer research with your colleagues via the internet		
2	Muhammad spent a lot of time playing computer games		
3	One of your colleagues pointed out selfies of you without your permission		
4	The possibility of sending your research to your teacher via e-mail		
5	One of your colleagues posted some incorrect information on the personal page		
6	Study your lessons via technological applications		
7	View the exam results via the Ministry of education website		
8	The tendency of some of your colleagues to isolation and distance from social life		



•How to search online

Search in a safe way



It is the process of searching through browsers that send alerts to users when unsafe access to sites or malware

Important note:

Some browsers have search engines dedicated to children and display age-appropriate content, and may include an application that allows parents to monitor their children

Always be sure to browse sites dedicated to your age

You can use browser tools to help you avoid clicking on links to inappropriate videos

Search in a smart way

Write long sentences instead of just two or three words, this will help you get better results

Example

- There is an animal called "Jaguar" as well as there is also a car "Jaguar" if you type in the search the word "Jaguar" only, you may get ads for this car to avoid this happening, type the word "Jaguar"

- You can use the image instead of words in your search process use the camera button and add the image you want in the results

- You can add the symbol (+) before the word you enter to ensure that your search includes the words or letters you want in the results, for example, "Jaguar + Animal + fast"

- To ensure that your search does not include unwanted or unnecessary results, you can add the symbol (-) before the words that you do not want to be included in the search

If you are looking for a specific sentence, put the sentence in quotation marks, for example, " how fast is a Jaguar?"

Lesson 4

•Questions

Q1- Put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase :

1- to get the best results when searching, you can just use two or three words (   )
2- you can use the image instead of words in the search process (   )
3- we can avoid unwanted results by using the symbol (+) (   )
4- you can add the symbol (+) before the word you want to include in the search results (   )

Q2- Choose the correct answer from the following options:

1- if you are looking for a specific sentence, put this sentence ....
(Quotation marks "" - before the symbol (-) - parentheses () - after the symbol (+))

2- the code that ensures that the search includes the words or letters you want in your search is ....
((+) – " " – (-) – ( ))

3- users rely on the search for the words or letters that you want in your search................
(Search engines dedicated to children - word processing software - website rendering software - browsers)



• Who can help you with online problems

Some common problems when using the internet



1- Cyberbullying on the internet:



A person has behaved in a bad way towards another person repeatedly, and it can include obscene posts, bad messages, or hurtful texts, and he can share these posts

- **How to avoid bullying:**

1- Always Be careful not to communicate with people unknown to you

2- Tell your guardian of any situation you may be in to help you



2- Identity theft via the internet:

Is someone stealing your identity or the identity of a family member via the internet and using your personal information and your account on social networking sites, as well as your address and phone number

What can we do to deal with problems while using the internet?

- **There are some problems that cannot be solved on your own, you should:**

1- tell a member of your family, your father, mother or teacher

2 - sometimes it is necessary to intervene the competent authorities to track this problem (Department of combating cybercrime)



•Questions

Q1- Put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase:

1- bullying has a psychological and sometimes pathological effect on the bully ( )

2- celebrity identity theft is just one of the problems of the internet ( )

3- if the article published in 2005 is considered a reliable source ( )

4- it is not allowed to add unknown people to your friends list on social networking sites ( )

4- sites with a link (Edu) are considered reliable sources ( )

Q2- Complete the following phrases with appropriate words:

1 - (Gov) is considered a special link to ....

2 - (Com) is considered a special link to ....

3 - (Org) is considered a special link to ....

4 - (Edu) is considered a special link to ....

Lesson 7
G4 ax2

•My personal saftey plan

Create strong passwords



1- the password is used to log in to your accounts on the internet, so it must be strong
2- if the password is easy to predict, some people may be able to hack your account online

How to keep the password



It is difficult to remember a lot of passwords, so use a password management system or make a list of these words

Conditions for strong passwords

1- it is necessary that your password does not include your name or any personal information about you
2- it must consist of at least eight letters
3- it must include letters, numbers and symbols so that it is difficult to penetrate

Choosing an antivirus program



Viruses:

It is a type of dangerous software that infects your computer that can send your messages without your knowledge or delete your files

Antivirus software



These are programs that always protect your devices from viruses

1- Choose easy - to-use programs to protect your device
2- good antivirus software detects viruses before they infect your device and eliminate them

Be careful when using the internet

1- choose different passwords for your accounts on the sites

Such as (Facebook - email-computer-tablet-mobile phone)

2- use antivirus software on those devices

Lesson 7

•Questions

Q1-put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase :

1- **to remember your password, you can use your name or any personal information ( )**

2- **to ensure that your device is protected from viruses, you should choose complex programs to use ( )**

3- **choose different passwords for your accounts on the sites to make you safe on the internet ( )**

Q2- choose the correct answer from the options:

1-Choosing an easy password may expose you to ....

(Hacking-hacking-both true-both false)

2-to create a strong password, it should not consist of less than .... Letters

(Three – six – eight - ten)



•Practicing what you learned

Presentation program

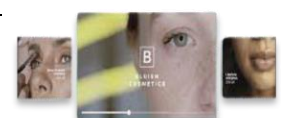


- It is a program produced by Microsoft company whose task is to prepare a presentation through slides
- Through this program, you can make the text great to look through word Art
- Helps to make a presentation in the form of a book
- The program allows you to add some fun sound effects

Video clips

• **You can prepare videos through cameras or filming locations, we need:**

- Your laptop or tablets mobile phone equipped with a video camera
- You can conduct interviews with others and add them to the video
- You can add more details and audio-visual effects



Advertising posters

• **There are some points to consider when using stickers:**

- Use bright colors to write information
- Always write in bold so that others can read the information
- Always make sure to present your ideas clearly





•Questions

Q1- Put the (√) sign in front of the correct phrase and the (×) sign in front of the wrong phrase:

1- to create a video clip, we need a device with a camera or an internal microphone ( )
2- writing in thin font on advertising posters helps to read information remotely ( )
3- the presentation program is a program owned by Google ( )

Q2- Choose the correct answer from the options:

1- you can conduct interviews with others and add them to .... Your own

(Video – poster – presentation - microphone)

2- it is used .... In creating videos

(Mouse - presentation-mobile phone-advertising poster)

Q3- Complete the following phrases with appropriate answers:

1- results and information can be shared by using presentations and............
2- a program .... Allows you to add sound effects to the presentation
3- preparing a video as a means of presenting a search, it is necessary to have availability .... Equipped with a camera